SEQUENCE LISTING

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<110> Cox III, George Norbert
       Case, Casey Christopher
       Eisenberg, Stephen P.
       Jarvis, Eric Edward
       Spratt, Sharon Kaye
       Sangamo Biosciences, Inc.
<120> Regulation of Endogenous Gene Expression in Cells Using
       Zinc Finger Proteins
<130> 019496-002200US
<140> 09/229,037
<141> 1999-01-12
<160> 40
<170> PatentIn Ver. 2.0
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\langle 223 \rangle n = g,a,c or t
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<222> (8)
<223> n = g,a,c or t
<220>
<221> modified_base
<222> (9)
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<222> (10)
<223> n = a or c; if g or t, then position 9 cannot be g
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                                                                     10
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      with three overlapping D-able subsites
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10

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acc ggt gag aag aaa ttt gct tgc ccg gag tgt ccg aag cgc ttc atg Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met cgt agt gac cac ctg tcc cgt cac atc aag acc cac cag aat aag aag 289 Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys 90 298 ggt gga tcc Gly Gly Ser <210> 15 <211> 99 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: VEGF1 ZFP construct targeting upstream 9-base pair target site in VEGF promoter <400> 15 Val Pro Ile Pro Gly Lys Lys Gln His Ile Cys His Ile Gln Gly Cys Gly Lys Val Tyr Gly Thr Thr Ser Asn Leu Arg Arg His Leu Arg Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly 35 Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His 55 Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met 65 Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys Gly Gly Ser <210> 16 <211> 298 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: VEGF3a ZFP construct targeting downstream 9-base pair target

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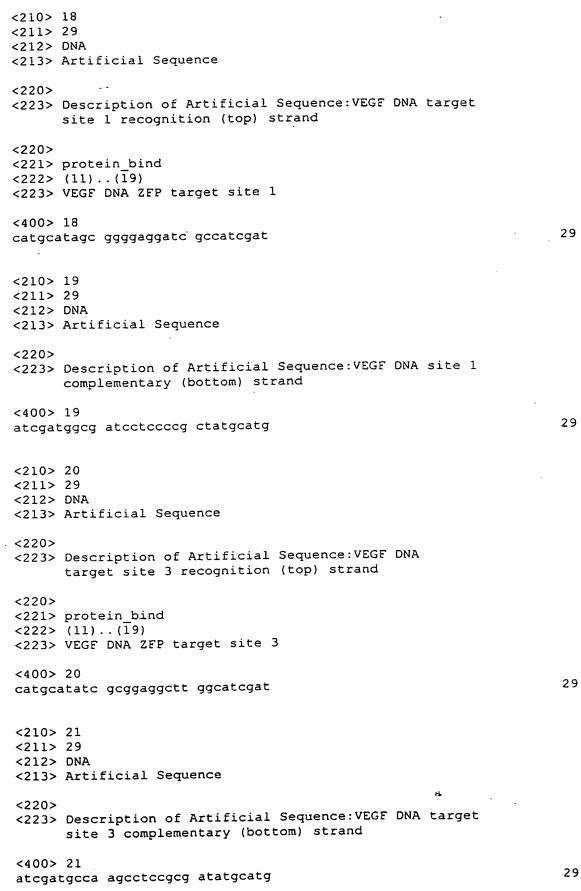
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<222> (2)..(298)

sit∈ in VEGF promoter

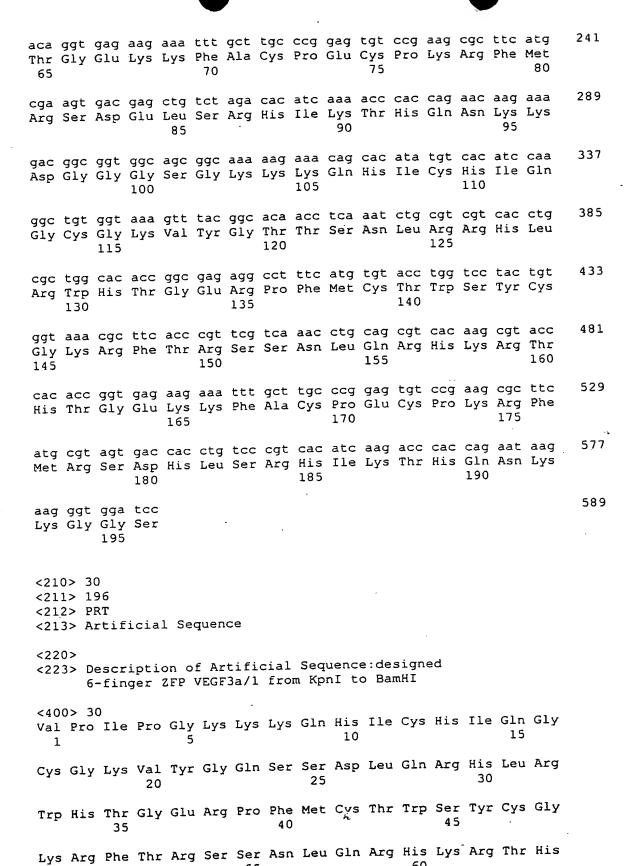
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-	tgt Cys	ggt Gly	aaa Lys	gtt Val 20	tac Tyr	ggc Gly	cag Gln	tcc Ser	tcc Ser 25	gac Asp	ctg Leu	cag Gln	cgt Arg	cac His 30	ctg Leu	cgc Arg	97
	tgg Trp	cac His	acc Thr 35	ggc Gly	gag Glu	agg Arg	cct Pro	ttc Phe 40	atg Met	tgt Cys	acc Thr	tgg Trp	tcc Ser 45	tac Tyr	tgt Cys	ggt Gly	145
	aaa Lys	cgc Arg 50	ttc Phe	acc Thr	cgt Arg	tcg Ser	tca Ser 55	aac Asn	cta Leu	cag Gln	agg Arg	cac His 60	aag Lys	cgt Arg	aca Thr	cac His	193
	acc Thr 65	ggt Gly	gag Glu	aag Lys	aaa Lys	ttt Phe 70	gct Ala	tgc Cys	ccg Pro	gag Glu	tgt Cys 75	ccg Pro	aag Lys	cgc Arg	ttc Phe	atg Met 80	241
	cga Arg	agt Ser	gac Asp	gag Glu	ctg Leu 85	tca Ser	cga Arg	cat His	atc Ile	aag Lys 90	acc Thr	cac His	cag Gln	aac Asn	aag Lys 95	aag Lys	289
		gga Gly															298
	<211 <212 <213)> }> De	escri	iptic ruct	l Secon of tarc	f Ar	tifi ng d	cial owns	Seq trea	uenco m 9-}	e:VE pase	GF3a pai	ZFP r ta	rget			
	<400 Val)> 1 Pro	7 Ile	Pro	Gly 5	Lys	Lys	Lys	Gln	His 10	Ile	Cys	His	Ile	Gln 15	Gly	~•
	Cys	Gly	Lys	Val 20	Tyr	Gly	Gln	Ser	Ser 25	Asp	Leu	Gln	Arg	His 30	Leu	Arg	
	Trp	His	Thr 35	Gly	Glu	Arg	Pro	Phe 40	Met	Cys	Thr	Trp	Ser 45	Tyr	Cys	Gly	
	Lys	Arg 50		Thr	Arg	Ser	Ser 55	Asn	Leu	Gln	Arg	His 60	Lys	Arg	Thr	His	
	Thr 65	Gly	Glu	Lys	Lys	Phe 70		Cys	Pro	Glu	Cys 75	Pro	Lys	Arg	Phe	Met 80	
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tgt ggt aaa gtt tac ggc cag tcc tcc gac ctg cag cgt cac ctg c Cys Gly Lys Val Tyr Gly Gln Ser Ser Asp Leu Gln Arg His Leu F 20 25 30	ege 97 Arg
tgg cac acc ggc gag agg cct ttc atg tgt acc tgg tcc tac tgt c Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys C 35 40 45	ggt 145 Gly
aaa cgc ttc aca cgt tcg tca aac cta cag agg cac aag cgt aca c Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr B	cac 193 His



Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met

}

Arg Ser Asp Glu Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys Asp Gly Gly Gly Ser Gly Lys Lys Lys Gln His Ile Cys His Ile Gln 105 Gly Cys Gly Lys Val Tyr Gly Thr Thr Ser Asn Leu Arg Arg His Leu. Arg Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys 135 Gly Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr 155 150 His Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe 170 Met Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys 185 Lys Gly Gly Ser 195 <210> 31 <211> 42 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: JVF9 VEGF3a/1 target oligonucleotide 42 agcgagcggg gaggatcgcg gaggcttggg gcagccgggt ag <210> 32 <211> 42 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: JVF10 VEGF3a/1 target oligonucleotide complementary sequence <400> 32 42 cgctctaccc ggctgcccca agcctccgcg atcctccccg ct <210> 33 <211> 25 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence:primer JVF24 <400> 33 25 cgcggatccg ccccccgac cgatg

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CC
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<221> PEPTIDE
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<223> SV40 large T antigen nuclear localization sequence
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Pro Lys Lys Lys Arg Lys Val
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С
<210> 37
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tagagegete agaagettag atet

1.	

204

aactataaga acctggtttc cttgggcagc gactacaagg acgacgatga caagtaag	
333 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	t 180
tctcgag	187
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gatteceegg ggeegggatt tacceeceae gaeteegeee eetaeggege tetggata	tg 180
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10,240,211,9 1.00 1.11 1.21	
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